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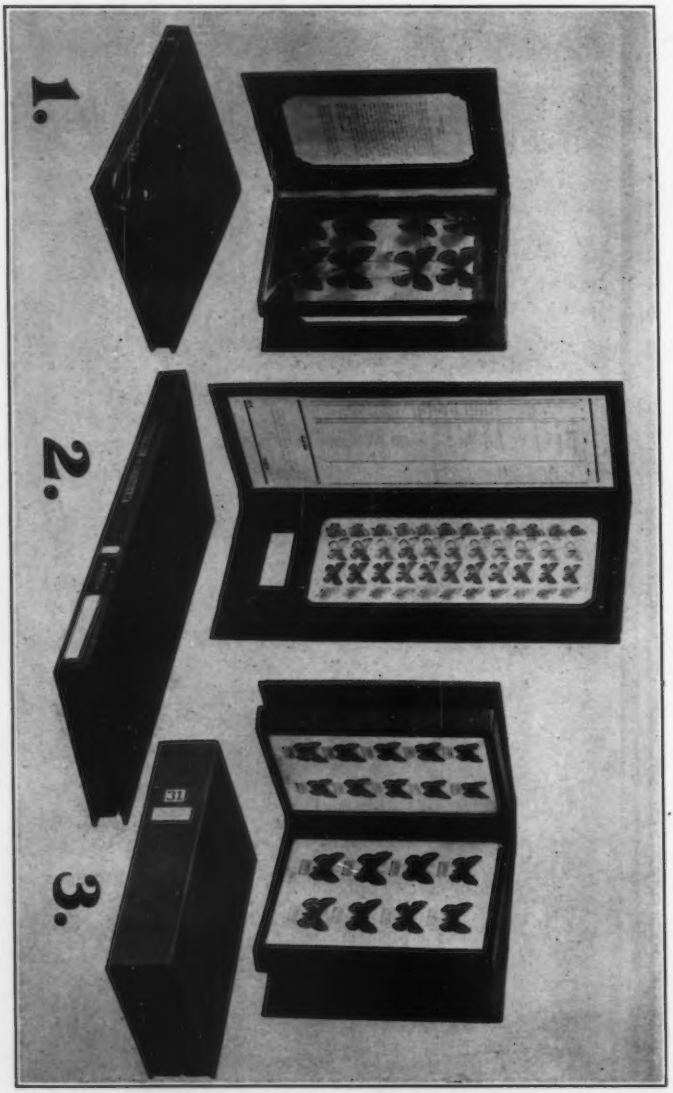

BUTTERFLY COLLECTIONS IN BOOK STYLE.—GUNDER.

ENTOMOLOGICAL NEWS

VOL. XXXVII NOVEMBER, 1926 No. 9

Butterfly Collections in Book Style.

By J. D. GUNDER, Pasadena, California.

(Plate XI).

Most collectors mount their butterflies on pins and keep the assembled species in cabinet drawers of one sort or another. This undoubtedly is the best way where only a short series is desired in a general collection and where a vast field is covered or represented. It is also better because the specimens can be picked up at will for examination and their position in boxes changed about as is necessary.

On the Pacific Coast during the last few years, there has been a tendency among collectors to mount their specimens under glass or cotton without the use of pins. This manner of preserving a collection is well suited where a restricted territory is represented, such as the confines of California or the Pacific Coast, for example.

Three of these collection methods are shown on the accompanying Plate XI. They are really butterfly collections put up in books! Each book holds a single species in long series in both sexes from the largest to the smallest and from the lightest to the darkest in different variation. These books or placks, as they are called, can be kept upright on a library shelf; can be stacked up and handled or even dropped without real harm to the specimens, and being sealed, are pest proof. The cost of the glass, cardboard, cloth, etc., is not excessive and if one is adept at binding, they can be home-made at a surprisingly reasonable price. The cost of a collection put up in this way is no greater than a good insect cabinet with glass drawers and the occupied space not nearly so large. Another advantage is that one can pack the books around and exhibit the specimens in a crowd without fear that they will become damaged.

Style No. 1 represents a book of *Dryas callippe* Bdv. from the collection of Mr. Charles Ingham of Los Angeles. No cotton

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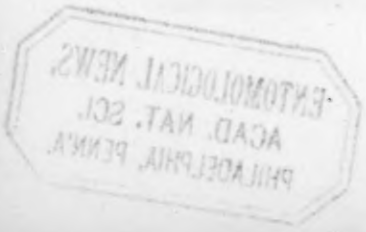
is used, but the specimens are supported between beveled glass panels and both upper and under sides may be examined. Space for original description is found on the inside front cover and the inside back cover records date and locality for each specimen. The binding is in brown leather, hand-imbossed in gold with "Butterflies of California" and check list number. Specimens may be easily removed by an ingenious idea which Mr. Ingham has conceived. The complete glass container fastens to the outer cover with auto snaps.

No. 2 shows the style adopted by the Author. The butterflies shown are *Glaucopsyche xerces* Bdv., a Plebine found around San Francisco. Males are in the first two rows to the left and females, the two rows to the right. The specimens rest on white jewelers' cotton in a central cardboard container which can be removed from the outer cover parts, thus giving ready access for examination. Contiguous to the specimens under the white name card at the bottom is a space for paracide which can be refilled from the rear. Each butterfly is located by a number which corresponds with a record on the inside cover. There is also data room for special notes. Before being placed inside, all the specimens are de-greased with high test gasoline and afterwards subjected to a half hour of moderate oven heat to kill possible infection. The book measures 1 inch by 6 by 15 inches and are in black leatherette.

No. 3 pictures the style of mounting used by Dr. J. A. Comstock, of Los Angeles, for preserving his reference collection. The butterflies shown are *Euphydryas quino* Behr. The males are in the left compartment of the book and the females in the right. Complete data labels are under each specimen. This manner of arrangement is unique and the double compartment idea in each book allows plenty of room for long series. Each plack is fastened to the outer cover with a strong cloth hinge. The outer binding is in green sack cloth and the species name and check list number are given on the front edge.

All the above described book placks are privately made and are not offered for sale.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Observations upon the Early Maggot Stage of Linnaemyia comta Fall. (Diptera: Tachinidae).[1]

By H. W. Allen.

A study of the literature indicates that *Linnaemyia comta* is widely distributed over Europe, and in North America from southern Canada to the Central American countries. Within this wide range it appears to be not uncommon but has rarely been reported in conspicuous numbers. It has been found to be parasitic upon a number of Noctuid larvae living in herbaceous vegetation and having a more or less clandestine habit of life; including the greasy cutworm (*Agrotis ypsilon* Roll.), the dark-sided cutworm (*Euxoa messoria* Harr.) (3), the granulate cutworm (*Feltia annexa* Treit.) (5), the variegated cutworm (*Lycophotia margaritosa* Hueb.) (4), the pale western cutworm (*Porosagrotis orthogonia* Morr.) (6), and the fall armyworm (*Laphygma frugiperda* S. & A.) (1) in North America, and it has been reared from *Saturnia pavonica* L. in Europe (2). Seamans (6) has reported that *comta* and *Gonia capitata* are quite effective controls of the pale western cutworm during the wet seasons, and reasons that the greater effectiveness at such times is not due to a greater abundance of parasites but rather to what he terms the leaf "ovipositing" habits of these two parasites coupled with the tendency of the host to feed more on the exposed foliage in the wet, cloudy weather. While his deductions appear well grounded, he seems not to have observed the great difference in the reproductive habits of the two species concerned, and the fact that *comta* is a larviposting form with a different method of spanning the gap between adult and host.

The adult females were moderately abundant at Agricultural and Mechanical College, Mississippi, during the spring of 1925. Several were captured and caged with suitable food and foliage. These adults deposited maggots on the foliage quite freely. Since larviposition upon foliage is the normal habit of the *Echinomyia* group to which this species has been

[1]A contribution from the Mississippi Agricultural Experiment Station, A. and M. College, Mississippi.

assigned, it is believed that the activity of the caged individuals closely approached that of free individuals in the field. Smooth vetch was the only foliage exposed in the cage. Maggots were deposited on all parts of this, but by far the largest number were attached to the upper surface of the leaves, comparatively few being placed on the stems. The presence of host caterpillars within the cage was not necessary to stimulate the female to larviposition.

The black, free-living maggots were approximately 0.8 mm.

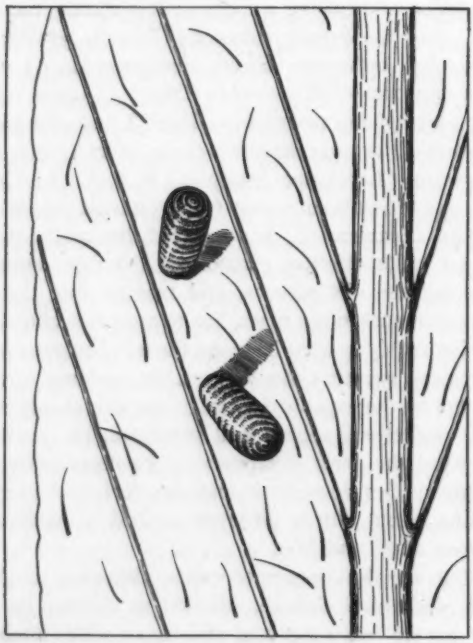

FIG. 1.
Two free living maggots of *Linnaemyia comta* Fall in characteristic upright position on a leaf of vetch.

in length, and at first sight appeared like minute particles of buoyant black soot oscillating in the air currents passing over

the surface of the foliage to which they were attached. The attachment to the substratum was by means of a small membranous cup in which the extreme posterior end of the maggot was seated. When at rest, they did not lie closely appressed to the substratum, as in the case of some related species, but assumed a position nearly perpendicular to it (fig. 1). In this position the head is retracted and the whole body foreshortened and more or less clavate, differing characteristically from the fusiform shape of many young Tachinid maggots. The conspicuous black color of the maggot is due to its covering of numerous cuticular plates arranged in a mosaic. These undoubtedly serve to protect the maggot from unfavorable atmospheric conditions, since the free-living maggots remain alive on the substratum for several days. The free-living maggot was found to be extremely sensitive to vibrations of the substratum, and became highly excited when disturbed, swinging its head about in wide circles. It forsook the basal membrane much more readily than in some related species, and crawled rapidly about over the substratum for some seconds, as if seeking the host, but finally coming to rest once more in the characteristic upright position. The maggots attached themselves quite readily to armyworms and variegated cutworms when they were placed within striking distance.

After attaching themselves, the maggots crawled over the body of the host for a period varying from a few seconds to several minutes, finally coming to rest on the spot selected for penetration. Penetration was usually effected through the dorsum of the first abdominal segment, or of the preceding or following segments, occasionally occurring elsewhere on the body though rarely through the venter. The act of boring through the cuticula of the host was accomplished with startling rapidity, the time required for penetration, as observed for several maggots on the variegated cutworm, varied from less than a minute to five minutes. Penetration was directly downward into the body of the host through both cuticula and hypodermal layer. Caterpillars in the last three instars were offered to the maggots. All were attacked and penetrated with equal avidity and ease. The entrance punctures of the mag-

gots did not close behind them as in some species but were maintained as primary breathing pores, at least throughout the instar of the host in which penetration was effected, and the succeeding instar. In the single specimen completing the development under observation, the maggot emerged from the caterpillar in its last instar, pupating outside the body of its host.

While *comta* adults were present in moderate numbers over a mixed infestation of armyworm and variegated cutworm, no specimens of this species were reared from the somewhat limited collections of these two pests made in the field. Notwithstanding the fact that free-living maggots penetrated these hosts most readily, in insectary experiments, only one specimen, which was inoculated into an armyworm, came through to maturity. Of 16 caterpillars of the variegated cutworm into which maggots penetrated, only 2 were able to pass through to normal emergence of adult moth, the remaining 14 perishing, though not in a single case permitting the maturing of the parasite. It is quite possible that a similar condition may exist in the field. In such a case, the work of the parasite might be of considerable importance, yet would almost certainly be largely overlooked in field observations or even in the usual insectary routine in which the rate of parasitism is based on the number of hosts producing mature parasites, and may explain, in part, the paucity of rearing records for this species.

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Notes on Some American Nabidae (Hemiptera).*

By HALBERT M. HARRIS.

Nabis vanduzeei Kirkaldy, Wien. Ent. Zeit, XX, 1901, p. 223.

Reuter (Mem. Soc. Ent. Belg., XV, p. 111, 1908) expressed the opinion that this form is nothing more than a variety of *N. flavomarginatus* Scholtz. He pointed out that it differed from *flavomarginatus* in general body form and in color. He further said (erroneously) that the male claspers of the two are of the same type, and this apparently is the character which led him to consider the two as conspecific. However, after having examined specimens of *vanduzeei,* brachypterous males and females and macropterous females, in series from Colorado and Montana, and specimens of *flavomarginatus* from England, Russia and Finland—including specimens of both forms bearing Reuter's determination labels—the writer is led to consider the two forms as specifically distinct. This view is based not only on those differences as noted by Reuter but also on differences in the character of the male claspers apparently overlooked by him. In *flavomarginatus* the clasper possesses on the outer surface of its blade a prominent backwardly projecting hook, a structure that is not present in *vanduzeei.* This hook, present in only one other North American species, *Nabis subcoleoptratus* Kirby, and there in a much less prominent degree, is perhaps of even greater specific value than the mere outline of the claspers.

Pagasa fusca var. **nigripes,** new variety.

Structure similar to typical *fusca* from which it may readily be separated by the deeper glistening black color of the dorsum and by having black legs.

Holotype: Brachypterous male, Pingree Park, Colorado, August, 1925, C. J. Drake, collector. *Allotype,* same data as type. *Paratypes,* brachypterous males and females taken with the types by C. J. Drake, R. H. Beamer and P. B. Lawson. The types are deposited in the author's collection, paratypes in the collections of the author, Dr. C. J. Drake, University of Kansas and Colorado Agricultural College.

*Contribution from the Department of Zoology and Entomology. Iowa State College, Ames, Iowa.

Bait Pan Insects.

By A. B. CHAMPLAIN and H. B. KIRK, Harrisburg, Pennsylvania.*

The use of bait pans of fermented syrups to check up on the activities of the oriental fruit moth has resulted in the accumulation of data on a number of other insects that were attracted by these substances.

Two quart pans, filled with molasses and water, including yeast enough to quickly start fermentation, were hung upon alternate trees throughout the peach orchard. The pans, after a time, contained baits of varying proportions and a difference in the comparative values of the different concentrations was noted, but all worked fairly well. The bait with a watery consistency gave better results than the thicker mixture.

This is offered as a suggestion for a unique method of trapping insects, especially beetles, many interesting species being attracted to these fermented syrups that are not often taken in numbers under ordinary collecting conditions.

Moths and butterflies were very much in evidence, but no attempt was made to identify or check up on them with the exception of the oriental fruit moth and several other economic species for comparison, and they will not be considered in this paper. Adult peach tree borers were found in the pans from June 19 until August 24, and by far the greater majority were males.

Adult males of the Sialid, *Chauliodes pectinicornis* Linn., were taken in numbers in the bait pans from June 11th continuously until August 6th. During this period but one female was taken (July 6). It is stated in the New York State Museum Bulletin No. 68, *Aquatic Insects of New York State*, page 457, that the adults have not been known to take food but it is evident from these observations that they are attracted to fermenting syrups. As many as ten males have been taken from one pan. The streams in which these insects breed are between one-eighth and one-quarter of a mile distant.

Lace-wing flies, adults of *Chrysopa sp.*, were taken in the

*Received for publication January 28, 1926—EDITOR.

pans from June 22 until August 12 continuously. Sexes not noted.

Very few examples of Orthopterous and Hemipterous insects were taken, and they were considered as accidental introductions.

In the Coleoptera a great variety of material was taken and a number of families were represented by certain characteristic groups of genera and species.

Carabidae were taken at intervals during the summer and it is likely that many of them were accidental or attracted by other insects. Among them were included *Calosoma scrutator* Lec. and *C. calidum* Fab., *Galerita* and a number of smaller forms.

Several specimens of *Necrophorus* and *Silpha surinamensis* were taken, representing the Silphidae.

Neopyrochroa flabellata Fab. was taken a number of times during July and one specimen of *N. femoralis* Lec., of the Pyrochroidae.

Elateridae were represented by a few genera in great numbers and a few individuals of other genera. *Alaus oculatus* (L.) June 6, 16, 19; *Monocrepidius lividus* (DeG.) occurred continuously in considerable numbers from July 5 to August 12; *Limonius sp.*, June 19 until July 25; *Ludius hieroglyphicus* (Say) one specimen August 6; *Hemicrepidius memnonius* Hbst., July 15 until August 10; *Parallelostethus attenuatus* (Say), July 6, 15, 20 and 28; *Melanotus sp.* occurred in great numbers throughout the season from June 16 until August 12.

Scarabaeidae were scarce with the exception of one genus—*Euphoria;* our common species, *Euphoria fulgida* (Fab.), was very plentiful in the pans from June 16 until August 12, and *E. inda* Linn. from August 6 until September 28. There were as many as one dozen of the latter taken in one pan during the last part of the season.

Cerambycidae were well represented and it is likely that, were the pans placed in more favorable locations for forest insects, the catch would have been considerably greater.

Chion cinctus (Drury) was taken June 16; and *Eburia quadrigeminata* (Say), July 10 and August 12.

Two species of the Elaphidionini were taken in great numbers during the summer season and it is a curious fact that the great majority of the specimens were males. *Hypermallus villosus* (Fab.), June 11 continuously until Aug. 10; and *Elaphidion mucronatum* (Say), June 16 continuously until August 12.

Of the *Lepturini*, *Gaurotes cyanipennis* (Say) was taken June 19 and July 1; *Strangalepta vittata* (Oliv.), June 22; *Strophiona nitens* (Forst.), July 3 and 15; *Typocerus velutina* (Oliv.), July 15 to 30; *Ophistomis luteicornis* (Fab.), June 22 to July 25, continuously.

Cyllene robiniae (Forst.) taken October 23; *Arhopalus fulminans* (Fab.), June 19 to 23; *Xylotrechus acuminatus* (Fab.) several on June 22.

Purpuricenus humeralis (Fab.), a species not commonly taken in numbers under ordinary collecting conditions, was plentiful from June 19th continuously until August 10. The greater number of individuals were males. The rare species, *P. axillaris* Hald, was taken from July 1 to 13—a number of fine specimens in perfect condition, both sexes. *Leptostylus aculifer* (Say), June 22.

It is quite likely that a trap line of these pans scattered throughout a forest area would yield some wonderful returns in rare and interesting species of Cerambycidae, and no doubt some new facts might be discovered concerning the feeding habits of these interesting insects. Why the preponderance of males in so many instances? What condition of the fermented mixture contains the attractive agent, and just what is this substance?

Hymenopterous insects were plentiful in the syrup, which was to be expected. Quite a variety of Ichneumonoids were observed and a number of other families represented. The most prevalent were hornets. Common Yellow Jackets (*Vespa sp.*) were taken continuously from June 1 until August 26. *Vespa maculata* occurred in the pans from June 19 until August 12. *Sphecius speciosus* was taken July 28, August 4, 6, 12. *Polistes sp.* occurred from June 22 until August 26.

Very few honey bees were found in the pans, the only obser-

vations July 6, 13, 15. Bumble bees were taken plentifully from July 3 continuously until August 4.

Of the Diptera, there were a great number of small species that were not studied. One interesting observation was the presence of male *Tabanus*, especially *T. atratus* which occurred continuously from June 16 until July 23.

Undescribed Species of Crane-flies from the Eastern United States and Canada (Dipt.: Tipulidae). Part III.

By CHARLES P. ALEXANDER, Massachusetts Agricultural College, Amherst, Massachusetts.

In this installment, a few species of the genus *Tipula* are considered, most of them belonging to the so-called *tricolor* group. As before, the majority of the specimens were included in collections received from Professor J. Speed Rogers, collected by himself and Mr. Hubbell. One other specimen was sent by Mr. Curran and another by Mr. C. W. Johnson. My sincere thanks are extended to the above gentlemen for this co-operation.

Tipula brevifurcata sp. n.

Allied to *T. iroquois* Alexander; vertical tubercle produced into a small elevated dusky knob; lateral praescutal stripes entire; median stripe split by a capillary dark brown vitta; male hypopygium with the ninth tergite large, the distal end narrowed into a median decurved lobe that is split at apex, into two short divergent points.

♂. Length about 12 mm.; wing 15.5 mm.

Frontal prolongation of head relatively elongate, pale brown, very sparsely pruinose; nasus short and blunt; palpi brownish black. Antennae with the scapal segments yellow; flagellum black, the extreme bases of the first few segments vaguely paler; antennae of moderate length, if bent backward extending about to the root of the halteres; flagellar segments only moderately incised. Head gray, the vertical tubercle produced into a small elevated dusky knob.

Pronotum obscure yellow. Mesonotal praescutum buffy gray, with three brown stripes, the lateral stripes entire, the median stripe obliterated anteriorly, becoming evident at about

opposite the cephalic ends of the lateral stripes, narrowly margined with darker brown and split for its whole length by a capillary dark brown median vitta; scutum buffy, each lobe virtually covered by two confluent brown marks; scutellum testaceous; postnotal mediotergite pale whitish gray. Pleura pale, covered with a dense white bloom. Halteres pale, the knobs infuscated. Legs with the coxae pale, sparsely pruinose; trochanters obscure yellow; femora yellow basally, passing into dark brown near midlength; remainder of legs brownish black; legs very long and slender, the tibiae longer than the femora, the tarsi exceeding the tibiae. Wings tinged with brownish yellow, the base and costal region clearer yellow; stigma dark brown; wing-apex distinctly suffused with brown; vein Cu_1 and *m-cu* seamed with brown; narrow brown seams along the cord; vein *2nd A* narrowly seamed with darker; veins dark brown, those in the costal region paler. Venation: Cell R_2 large, the veins enclosing it diverging; petiole of cell M_1 about twice *m;* basal deflection of M_1+_2 relatively long.

Abdominal tergites brownish yellow, the outer segments becoming darker; tergites five to seven narrowly ringed caudally with paler; lateral margins of the tergites broadly yellowish; ninth tergite uniformly darkened; sternites obscure yellow, the basal segments variegated with darker. Male hypopygium of moderate size, the tergite distinctly separated from the sternite by a suture that extends back to beneath the eighth segment. Ninth tergite very large, the basal portion arched, the apical portion suddenly narrowed into a median decurved blackened lobe, its apex split into two short divergent points. Basistyle large but the sutures separating it from the sternite almost obliterated. Outer dististyle relatively long and narrow, obscure yellow, gradually narrowed to the obtuse apex. Inner dististyle appearing as a heavily blackened, shiny, hook-like spine. Dorso-caudal angle of the median region of the ninth sternite produced into a small straight subchitinized rod. Aedeagus elongate, projecting conspicuously from the genital chamber.

Habitat.—Tennessee. *Holotype:* ♂, Scott Co., May 30, 1922 *(J. S. Rogers);* No. 6.

Type returned to Professor Rogers.

Tipula floridensis sp. n.

Belongs to the *tricolor* group; closely allied to *T. fraterna* Loew; size large; wing-apex entirely darkened; whitish fascia at the cord not entirely traversing the wing; male hypopygium

with the lobe of the ninth tergite elongate, subrectangular in outline; outer dististyle with the setae sparse and inconspicuous.

♂. Length about 15 mm.; wing 18 mm. ♀. Length about 20 mm.; wing 19 mm.

Frontal prolongation of the head obscure yellow, the concolorous nasus long and slender; palpi brown. Antennae of moderate length, in male, if bent backward, extending about to the base of the abdomen; basal segment dark brown, sparsely pruinose; second segment a little paler; flagellar segments bicolorous, the base of each dark brown, the long pedicel yellow, this latter color becoming darker on the outer segments which thus become more uniformly infuscated. Head dark gray, the anterior vertex paler. In the female, the antennae are shorter; head with a capillary brown median vitta.

Mesonotal praescutum brownish gray with three brown stripes, all of the latter indistinctly bordered with darker, the median stripe further split by a capillary brownish black vitta that becomes obsolete before the suture; scutum brownish gray, each lobe with two darker brown areas; scutellum paler brownish gray; postnotal mediotergite light gray pruinose. Pleura clear light gray, the dorso-pleural membrane obscure yellow. Halteres pale brown, the extreme base of the stem paler, the knobs darker. Legs with the coxae pale, pruinose; a brown spot at base of fore coxa; trochanters obscure testaceous yellow; femora brownish yellow, the tips narrowly and vaguely darkened; tibiae obscure brownish yellow, darkening outwardly; tarsi similar, the terminal segments uniformly brownish black. Wings dark brown, this color including the entire wing-apex; proximal end of stigma yellow, the distal end dark brown; cells *M*, *Cu* and the Anal cells largely pale, the outer ends more darkened; a relatively narrow but conspicuous whitish obliterative band crosses the wing before the cord, extending from the yellow stigma far into the base of cell M_3, the inner end of cell *1st* M_2 being included; center of cell M_4 extensively pale; veins dark brown, pale in the obliterative areas. Venation: Basal section of R_2 fully one-half *r;* cell *1st* M_2 relatively long and narrow; petiole of cell M_1 about one-third the cell; cell *2nd A* relatively narrow.

Abdominal tergites pale yellowish brown, with a broad dark brown sublateral stripe, the ground-color becoming more pruinose on the posterior segments; lateral margins of segments broadly paler; sternites light brown. Male hypopygium with the caudal margin of the ninth tergite bearing a conspicuous strongly depressed, subrectangular, median lobe, the

sides gradually narrowed outwardly, the tip truncate, with the apical angles rounded. Outer dististyle compressed, the apex truncated, the surface of the style on distal half with sparse short setae that are more numerous on the ventral-outer angle but still inconspicuous. Ninth sternite with a deep V-shaped notch, the margins of the incisions fringed with conspicuous elongate setae that completely fill the aperture. Ovipositor with the tergal valves slender, dark brown.

Habitat.—Florida. *Holotype:* ♂, Gainesville, Alachua Co., March 28, 1922 *(J. S. Rogers);* No. 28. *Allotype:* ♀ March 14, 1922.

Type returned to Professor Rogers.

Tipula concava sp. n.

Belongs to the *tricolor* group; praescutum with three brown stripes that are narrowly margined with darker brown, the median one further split by a capillary dark brown vitta; wings brown, longitudinally vittate with whitish subhyaline; cell R_5 largely pale; male hypopygium with the median lobe of the ninth tergite very broad, its caudal margin broadly emarginate.

♂. Length 12.5—13 mm.; wing 12—13.5 mm.

Frontal prolongation of head obscure yellow, darker laterally, the nasus slender. Antennae with the scapal segments dark brown; flagellum bicolorous, the basal segment yellow, the succeeding segments with the basal enlargements narrowly blackened, the remainder yellow; on the outer segments the ground-color passes through brownish yellow to yellowish brown. Head grayish brown, narrowly clearer gray on the orbits, the center of the vertex with a slightly darker brown median vitta; anterior vertex buffy.

Pronotum obscure yellow, with three brown spots. Mesonotal praescutum buffy with three brown stripes that are narrowly margined with dark brown, the median stripe further divided by a capillary vitta of the same color; in some specimens the interspaces are clouded with darker; scutum brownish buff, each lobe with two contiguous darker brown areas; scutellum buffy gray, in cases with a vague capillary darker line; postnotal mediotergite buffy with a longitudinal brownish line on either side. Pleura light gray, vaguely striped longitudinally with darker gray. Halteres pale, the knobs infuscated. Legs with the coxae and trochanters pale, whitish pruinose; femora obscure yellow, the tips narrowly blackened; tibiae yellowish brown, the tips narrowly darker; tarsi uniformly dark brown. Wings brown, longitudinally vittate with whitish subhyaline,

the latter color including all of cells *R* and *M* except the base and seam along *Rs* and most of the cubital and anal cells except their more infuscated outer ends; a conspicuous obliterative area before the cord, extending from cell *1st* R_1, across the proximal third of cell *1st* M_2 into the basal half of cell M_3; center of cell M_4 extensively pale; outer half of cell R_5 more or less distinctly whitened, cell M_1 uniformly darkened; cell *2nd* M_2 sometimes vaguely paler at center; veins dark. Venation: Cell M_1 about equal to its petiole.

Abdominal tergites obscure yellow, with a broad brown longitudinal stripe on either side, the lateral margins of the segments broadly grayish, the caudal margins narrowly of the same color; sternites obscure brownish yellow, the caudal margins of the segments paler. Male hypopygium with the ninth tergite produced medially into a broad and relatively short blackened lobe, the caudal margin of which is conspicuously and broadly emarginate.

Habitat.—Eastern United States. *Holotype:* ♂, Hanover, Jefferson Co., Indiana, July 22, 1921 *(J. S. Rogers);* No. 64. *Paratopotype,* ♂; *paratypes,* ♂, Ann Arbor, Washtenaw Co., August 6, 1921 *(J. S. Rogers);* No. 2; ♂, Winnipauk, Connecticut, June 16, 1909 *(C. W. Johnson),* in the Boston Society of Natural History.

Type returned to Professor Rogers.

Tipula concava bears a resemblance to *T. eluta* Loew in the relatively diffuse wing-pattern. It is readily told from the other described species of the group by the broadly concave apex of the median lobe of the tergite of the male hypopygium.

Tipula parvemarginata sp. n.

Belongs to the *tricolor* group; head brownish gray to gray, with a capillary dark brown median vitta; antennal flagellum dark brown, the extreme bases of the segments restrictedly paler; wings suffused with pale brown, the disk without conspicuous subhyaline or hyaline longitudinal vittae; M_3+_4 very short to lacking; male hypopygium with the median lobe of the ninth tergite broad, with a small median notch.

♂. Length about 12—13 mm.; wing 12.5—13 mm. ♀. Length 14—15 mm.; wing 15—16 mm.

Frontal prolongation of head obscure yellow, the nasus conspicuous; palpi dark brown. Antennae with the scapal segments obscure yellow, the flagellum dark brown, with the

extreme proximal ends of the basal enlargements of the segments paler. Head brownish gray, the front and posterior orbits clearer gray; a capillary dark brown median vitta. In cases th,e ground-color of the head is clear gray.

Mesonotal praescutum grayish brown with three nearly concolorous or slightly more reddish brown stripes that are vaguely margined with darker brown, the median stripe split by a similar dark brown vitta; in some cases, the ground-color and stripes are of a much clearer gray; scutum obscure yellow, the lobes largely covered by two contiguous dark brown marks; scutellum and postnotum buffy or grayish buffy, with a very narrow capillary brown line. Pleura yellow, the sternopleurite and anepisternum sparsely pruinose. Halteres pale, the knobs dark brown. Legs with the coxae pale, sparsely pruinose; trochanters yellow; femora and tibiae obscure brownish yellow, the tips narrowly infuscated; tarsi brownish yellow, soon passing into brownish black. Wings suffused with pale brown, the base and costal region darker, this color including the cephalic half of cell *R*, most of cell *1st* R_1 and the stigma; no distinct hyaline vittae as usual in the *tricolor* group, the center of the wing in cells *R* and *M* being only slightly paler than the remainder of the ground-color; obliterative areas along the cord include the outer end of *Rs*, basal section of M_1+_2 and the basal portion of the first section of M_3; stigmal region somewhat brighter brown than the ground-color; a dusky cloud on the anterior cord; Cu_1 and especially *m-cu* seamed with brown; veins dark brown. Venation: Petiole of cell M_1 about equal to or longer than *m*; M_3+_4 very short, only about one-half longer than the punctiform basal section of vein M_4. In cases, vein M_3+_4 is obliterated, both veins M_3 and M_4 arising directly from the end of *M*.

Abdominal tergites obscure yellow, with a broad dark brown sublateral stripe, these ending on the seventh tergite; eighth tergite yellow, with a median brown spot; sternites obscure yellow, the caudal margins of the segments narrowly grayish; seventh and eighth sternites infuscated; hypopygium largely yellow. Male hypopygium with the ninth tergite obscure yellow, with a more or less distinct brown line on either side, in cases fused into a single median blotch; caudo-median area of the tergite produced caudad into a short broad median lobe that has a small U-shaped notch, the lateral lobules thus formed being microscopically spiculose. Outer dististyle of moderate size and width.

In the female, the basal flagellar segments are more uniformly pale.

Habitat.— Northeastern North America. *Holotype:* ♂, Devil's Lake, North Dakota, July 23, 1920 *(T. H. Hubbell);* No. 39. *Allotopotype,* ♀, August 8, 1920; No. 161. *Paratopotypes,* 6 ♂♀, July 23—August 14, 1920; Nos. 39, 48, 161, 196; *paratypes,* ♂, Turtle Mts., North Dakota, July 30, 1920 *(T. H. Hubbell);* No. 88; ♂, Portage la Prairie, Manitoba, July 2, 1924 *(A. J. Hunter),* in the Canadian National collection; ♂, Ann Arbor, Washtenaw Co., Michigan, June 28, 1920 *(J. S. Rogers);* No. 20.

Type returned to Professor Rogers.

Insects as Litigants.

By HARRY B. WEISS, New Brunswick, New Jersey.

In these times insects are occasionally the causes of litigation but never the litigants. Such was not the case some centuries ago when legal prosecutions of the lower animals were not unusual. In France, Spain and Italy the lower animals were subject to the laws and in Switzerland, they could in addition be admitted as witnesses. There are instances recorded, of a writ being served against rats in the diocese of Autun, of a sow and six pigs being charged with the murder of a child at Lavegny in 1457, of a process issued against leeches at Lausanne in 1451, and of a cock being tried at Basle in 1474 for laying an egg.

A law suit between the inhabitants of the Commune of St. Julien and the beetle *Rhynchites aureus* is said to have lasted more than forty years, or from 1445 to 1487, and was not settled even then. At one time the people proposed a settlement of the case by giving to the beetles in perpetuity, a piece of their district, not a poor piece, but a productive one. The attorney for the beetles objected but the court over-ruled the objection and appointed agents to survey the land. This they did and finding it well supplied with water and trees, the land was deeded in due form to the insects. Unfortunately this did not end the case because it was discovered later that some one had an ancient right-of-way over the land, which if taken advantage of might disturb the insect owners; and so the contract

was invalidated and the case started anew. During the progress of the suit the lawyers had to be paid and other expenses such as those for religious processions and ceremonies were incurred. A district could not start a suit of this kind unless its taxes were fully paid up.

Domestic animals were tried in the common criminal courts and if convicted, the penalty was death. Wild animals were tried in the ecclesiastical courts and punished by banishment and death by exorcism. St. Patrick, for example, exorcised the snakes of Ireland into the sea and St. Bernard, being irritated one day by the persistent activities of a blue-bottle fly, said, "Be thou excommunicated," and thus unintentionally caused the death of all the flies in the district. In Purchas's "Pilgrims," locusts are spoken of as being exorcised and excommunicated so that they flew away and again—"In the yeere 1603, at Fremona, great misery happened by Grasse-hoppers, from which Paez freed the Catholikes, by Letanies and sprinkling the Fields with Holy-water; when as the Fields of Heretikes, seuered only by a Ditch were spoyled by them. Yea, a Heretike vsing this sacred sprinkling, preserued his corne, which, to a Catholike neglecting in one Field, was lost, and preserued in another by that coniured aspersion (so neere of kinne are these Locusts to the Deuill, which is said to hate Holy-water)."

Manoel Felix reported that red ants ate the alter cloths in the Convent of St. Antonio, Maranham, Brazil, and also brought up pieces of shrouds from the graves, for which they were prosecuted by the friars. Another case deals with the unwelcome activities of ants in a convent at Avignon, whereupon they were sued, excommunicated and ordered to move within three days to a place alloted to them in the middle of the earth. According to the clerical statement, this the ants did, taking away with them, their young and their provisions.

The right to exercise the power of trying domestic animals is said to have been based on the Jewish law as laid down in Exodus XXI, 28 and other places in the Old Testament. Lawyers were appointed to defend the animals and the whole event, including the sentence was carried out with extreme formality.

If the residents of a district were being annoyed by specific animals, the court appointed experts to inspect the area and report their findings. A counselor was selected to defend the animals and to show cause why they should not appear in court. They were then summoned three times and failing to appear, a decision was given against them by default. The court then issued a *monitoire* admonishing them to leave the district within a specified time, "under penalty of adjuration." Failing to disappear within the time set, exorcism was pronounced with due gravity. The courts however did everything that they could to delay this last pronouncement because of the danger that the animals might fail to pay attention to it, thereby placing them in a ridiculous position. The animals in some cases, instead of vanishing after being execrated, multiplied and were more destructive than before. This was attributed by the erudite jurists of the time not to a lack of court power, nor to an unjust sentence, but to the malignant hostility of the Prince of Darkness.

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Concerning the Genus Chalcomyia Williston (Syrphidae, Dipt.).

Shannon (Proc. Ent. Soc. Wash., xxviii, 111-114) gives a key to this genus and describes a new species, *C. beckeri*. This latter is almost certainly a synonym of *Psilota ruficornis* Zett. which has been placed in the genus *Myolepta* Newm. since 1858. *Chalcosyrphus* Curran should be considered a genus distinct from *Chalcomyia*. At the time the subgenus was erected only the female was known but males have since been examined. In this genus the abdomen is narrow and elongate, in both sexes, whereas in *Chalcomyia* it is very broad in the female and broad in the male. *Chalcosyrphus atra* Curran is undoubtedly the female of *depressa* Shannon and this latter should be considered as the genotype of *Chalcosyrphus* Curran. *Chalcomyia anomala* Shannon evidently belongs to the genus *Cynorhina* or *Cynorhinella*, and is certainly not *Chalcomyia*.

C. H. CURRAN, Ottawa, Can.

ENTOMOLOGICAL NEWS

PHILADELPHIA, PA., NOVEMBER, 1926.

The People are Becoming Better—Especially the Entomologists.

It is a joy to know that in some respects people are changing to the better. Surely scientific men are growing broader and more unselfish—more considerate of one another and more interested in the welfare of humanity as a whole. The specialist always draws his examples from his own class after making a generalization, and, just as the beetle chaser in Van Bruyssel's charming "Population of an Old Pear Tree" said "especially with the Buprestidae," so in this case I say "especially with the economic entomologists."

There is, for example, a striking contrast between the mutually helpful attitude of the entomologists all over the world at the present day in the important matter of introducing parasites and other natural enemies of destructive insects into one country from another and the attitude assumed by B. D. Walsh for John Curtis sixty years ago in the imaginary correspondence which he supposed to have taken place between Asa Fitch and Curtis concerning the importation of the parasites of the wheat midge from England into New York State (Practical Entomologist, vol. II, p. 54). Look it up in your library, and then, when you have read it, consider present conditions and think how glad Guy Marshall or Imms of England, Marchal of France, Berlese or Silvestri of Italy, Escherich, Reh or Walther Horn of Germany, Horvath or Jablonowski of Hungary, Pospelov of Russia, Kuwana of Japan, Fletcher of India, Williams of Egypt, Lounsbury of South Africa, Tillyard of New Zealand, or any of the growing army of younger workers would be of a chance to help us in any way! Then think how gladly we welcome the foreign entomologists who are visiting us in increasing numbers and what a privilege it is to us of the present generation to be of assistance to any one of the men I have named, or in fact to any other good worker, no matter in what country he may be working. Economic entomology—

the fight of humanity against the insects—has become broadly international, and there are no barrier lines between the workers of different nations.

So much for the international aspects suggested by Walsh's imaginary correspondence. Am I right in my strong impression that the relations among our own American workers are vastly better than they were in the days of Walsh? When I think of the rivalries and jealousies of my earlier days, when I remember the harshly critical articles that were published from time to time, I believe that my present impression is right: the people are becoming better—especially the entomologists.

L. O. HOWARD.

New Prize Fund of the Entomological Society of France.

At its meeting on April 14, 1926, the Entomological Society of France accepted an offer made to it by M. H. Gadeau de Kerville of 20,000 francs to establish a fund the income of which is to be given annually as a prize to a French author of a printed or manuscript paper on the biology of a group of Arthropods (or even of a single species), not to be limited to insects. (Bull. Soc. Ent. Fr. 1926, no. 7, p. 74).

Changes of Addresses.

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Henry L. Viereck, Acad. Nat. Sciences, Philadelphia, Pa.

Thanaos clitus (Lepid.: Hesperiidae) in California.

Thanaos clitus Edwards was reared from larvae feeding on *Hosackia* sp. The larvae were taken at Torrey Pines, San Diego County, California, April 23, 1926.

A. J. BASINGER, Riverside, Calif.

Entomological Literature

COMPILED BY E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published.

All continued papers, with few exceptions, are recorded only at their first installments.

Papers of systematic nature will be found in the paragraph beginning with (N). Those pertaining to Neotropical species only will be found in paragraphs beginning with (S). Those containing descriptions of new forms are preceded by an *.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Papers published in the Entomological News are not listed.

1—Trans., American Ent. Soc., Philadelphia. **4**—Canadian Ent., Guelph. **5**—Psyche, Cambridge, Mass. **9**—Entomologist, London. **11**—Deutsche Ent. Zeitschrift, Berlin. **12**—Jour. of Economic Ent. **13**—Jour. of Ent. and Zoology, Claremont, Cal. **14**—Ent. Zeitschrift, Frankfurt a. M. **17**—Ent. Rundschau, Stuttgart. **18**—Intern. Ent. Zeitschrift, Guben. **19**—Bull., Brooklyn Ent. Soc. **22**—Bull. of Ent. Research, London. **26**—Ent. Anzeiger, Wien. **39**—The Florida Entomologist. **45**—Zeit. f. Wissenschfl. Insektenbiol., Berlin. **47**—Neue Beitr. z. System. Insektenkunde, Berlin. **56**—Konowia, Wien. **63**—Deutsche Ent. Zeitschr., "Iris," Dresden. **75**—Ann. & Mag. of Nat. Hist., London. **77**—Comptes R., Soc. Biologie, Paris. **100**—Proc. Acad. Nat. Sci., Philadelphia. **103**—Proc. Zool. Soc. London. **118**—Die Naturwissenschaften, Berlin. **124**—Revue Suisse de Zool., Geneve. **127**—Archiv f. Entwickl. der Organis., Berlin. **133**—Jour. Experimental Zool. **141**—Amer. Naturalist. **154**—Zool, Anzeiger, Leipzig.

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ley, G. S.—Four new Canadian Chironomidae.—**4,** lviii, p. 205-207.

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COLEOPTERA.—Beaulne, J. I.—Les Coléoptères du Canada xliiie famille Elateridae.—Le Naturaliste Canadien, liii, pp. 46-48. **Chittenden, F. H.**—Note on the blister beetle Macrobasis murina.—**19,** xxi, p. 118. **Graham, S. A.**—Biology and control of the white pine weevil, Pissodes strobi Peck.—Bull. 449 Cornell Univ. Agric. Exper. Sta. Ithacca, New York, June, 1926, 32 pp., illus. **Heikertinger, F.**—Ueber den Fuehler von Mimeciton und seine Anpassung.—**154,** Bd. 68, pp. 17-24, illus. Leipzig Aug. 5, 1926. **Strouhal, H.**—Pilzfressende coccinelliden (Psylloborini).—**45,** xxi, p. 131-143. **Zikan, J. F.**—Reichtum oder armut der schmetterlings und käferfauna in Süd-Brasilien.—**45,** xxi, p. 144-147.

(N) **Criddle, N.**—A note on the synonymy of certain species of Physonota.—**4,** lviii, p. 207-208. ***Fall, H. C.**—Two new names and a correction in synonymy.—**19,** xxi, p. 125.

(S) ***Marshall, G. A. K.**—Two new species of Curculionidae from Haiti.—**22,** xvii, p. 53-54. ***Wasmann, E.**—Die Paussidengattungen des baltischen Bernsteines (265. Beitrag zur Kenntniss der Myrmecophilen).—**154,** Bd. 68, pp. 25-30, illus.

HYMENOPTERA.—Bacynskyj, L.—Ueber die Gift und Dufour-drüsen bei Apis mellifica [in Russian].—Zbirnik matematichno-prirodopisno-likarskoi sekschü, Bd. xxiii-xxiv, Leopoli [Lemberg] 1925, pp. 149-152. **Bouget & de Virville.**—Les fourmis et la flore.—Les Feuil. Natural., An. 47, p. 117-9. **Cockerell, T. D. A.**—Descriptions and records of bees.—**75,** xviii, p. 216-227. **Davis, W. T.**—Wasps and bees as water-straddlers.—**19,** xxi, p. 127. **Ferriere, C.**—Note sur un chalcidien a developpement polyembryonique.—**124,** xxxiii, 585-96. **Genieys, P.**—Aberration de la ponte d'un hymenoptere parasite.—La Feuil. Natural., An. 47, p. 121-2. **James, H. C.**—The anatomy of a British phytophagous Chalcidoid of the genus *Harmolita (Isosoma)*—**103,** 1926, pt. 1, pp. 75-182, illus. **Paoli, G.**—Revisione del genere Aspidiotisphagus How.—Bolletino d. Società Entomologica Italiana, lviii, pp. 97-105. Genova [Genoa].

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(S) ***Alfken, J. D.**—Die mir bekannten Chilenischen arten der bienengattung Corynura.—**11,** 1926, p. 145-163. ***Tavares, J. da S.**—(See under General).

SPECIAL NOTICES

Insecta Matsumurana. Edited by Prof. S. Matsumura. Issued by The Entomological Museum, Hokkaido Imperial University, Sapporo, Japan. The first number of this new journal has just appeared. The journal is to contain descriptions of the new species of insects collected by Dr. Matsumura. Its papers are to be in English, German, or French.

Zoological Record. Insecta. Prepared by The Imperial Bureau of Entomology. This part of volume 42, 1925, has just appeared, containing 421 pages.

BIOLOGIE DER SCHMETTERLINGE, von DR. MARTIN HERING: (Berlin, Julius Springer, 1925).—This is an amazing book. In some five hundred pages it covers practically the whole field of the biology, in the stricter sense, of the butterflies and moths; and also gives an equally full account of the structure of the various stages, though the systematic side is neglected. It is difficult to see how a single man has managed to cover the field of published data so completely. I find in each field that I have sampled, not only the generally accepted and better known facts, but an extraordinary mass of other items less well known, and not a little that I believe to be unpublished. In the matter of published material apparently not only the well known scientific sources seem to have been covered, but also the obscurer and more popular sources which frequently contain important points of ecology, habits and life history.

There are some points that seem to me worthy of criticism, and a few errors and omissions surprising in an otherwise so perfect piece of work. On p. 4 the "ocelli" of the larva are referred to. It is now well known that the so-called ocelli of caterpillars are not true ocelli, but are the isolated ommatidia of a degenerate compound eye. The essential differences between the compound eye and the ocellus of an insect are as follows: In the compound eye each group of retinal cells (retinulae) is supplied by a separate lens and cornea, and is composed of about seven elements; in the ocellus there is a single cornea and no lens for a group of retinulae, each of which is composed of two or three, rarely four elements.* The figure of the caterpillar ommatidium *(Macrothylacia rubi,* as *Gastropacha)* in Schroeder's "Handbuch," vol. 1, fig. 125, shows these features plainly, and Hering's figure on p. 185 obviously represents the same structure, though it is not labelled "larva." For the true ocellus of the Lepidoptera see E. Link: Zool. Jahrb. Abt. Anat. 27, p. 233 fig. E. It shows two-cell retinulae grouped under a single cornea.

On p. 59, in the discussion of monophagy and polyphagy of caterpillars, the intermediate condition, where members of a group of closely related genera are attacked (oligophagy) is not sufficiently considered. This is perhaps a serious omission, as so many of the primitive forms show it, and probably the whole discussion of the primitive character of polyphagy should be inverted. Early oligophagous types are the Eriocraniidae, Papilionidae and Hesperiidae as a whole, Nepticulidae, and some genera of Incurvariidae such as *Prodoxus* and *Paraclemensia.* The last is unusual in being practically confined not merely to a single genus, but to a single species. It might well be argued that the relatively few polyphagous primitive forms (such as *Hepialus humuli*) originally fed on some Cryptogam now extinct, and have been forced to substitutes. The botanical omniscience of the Ithomiids (Neotropidae) is vitiated by the fact that one or two species feed on "Yuca" or Cassava (Euphorbiaceae). I suspect similarity of smell (from the insect point of view) is more important than botanical kinship. The association of Vitaceae with Lythraceae and Onagraceae by no less than five genera *(Desmia, Alypia, Eudryas, Pholus, Choerocampa* s. l.*)* is another striking case overlooked by Dr. Hering. *Ambrosia* and Compositae should be added to the foods of *Tischeria* on p. 61.

*This difference fails in larvae of Coleoptera and Hymeneoptera, which have a structure of intermediate type in the position of the compound eye.

American workers will be likely not to recognize our familiar *Feniseca tarquinius* under the name of "Polyommatus porsenna" on p. 73.

On p. 76, one is left with the impression that the dorsal glands mentioned are of general occurrence. In fact they are limited to the Lymantriidae, and even there are absent from such highly aberrant forms as *Doa*. The curious use described for them in the gold-tail, should be verified in other forms, and other soft-haired caterpillars should be examined to see if they show anything similar (*Apatelodes*, for instance).

On p. 78 the statement is made that forms with evenly distributed bristles are primitive. In fact the exact opposite is true, evenly distributed bristles being limited to a few more or less specialized groups (all except the butterflies highly specialized), and the primitive forms have a sparse and highly irregular pattern.

It does not seem sufficiently clear, that in the case of the sphingid horn, and the ocelli, only the cuticle is renewed at the molt, the soft parts being withdrawn. The Gracilariidae also do not not undergo their hypermetamorphosis at the first, but at one or another of the later molts. The statement that the young *Phyllocnistis* larva is a tissue feeder is surprising. *Marmara* in any case is a sap-feeder its whole life.

The discussion of the genealogy of the Lepidoptera is perhaps still a matter of opinion, but a couple of points in the table on p. 43 would satisfy very few,—notably the wide separation of the Castniidae and Hesperiidae, and of the Gracilariidae from the Lyonetiidae. The arrangement of the families of higher moths is to me merely a mystery, it seems to follow neither the old conceptions based on the "Bombyx"-like appearance or the venation, nor the more recent systems based on egg, larva and tympanum, all three of which would associate the Dioptidae and Notodontidae with the Noctuidae etc., and the Bombycidae, at least distantly, with the Saturniidae.

The tympanum, p. 193 etc., seems to have been a source of trouble, the two figures on p. 194 being entirely unrecognizable. In fig. 58 I suppose an arctiid is represented, but the tympanic membrane is extraordinarily large for a form with the spiracle on the outer side of the hood, and there is nothing either in figure or text to indicate that the part of the body that bears it is the *thorax*. In the figure it seems to belong to a mysterious extra segment (labelled merely "Thorax"), while the text moves it onto the abdomen. The other figure appears to be synthetic, combining features of the Geometridae (where the membrane is on the first segment of the abdomen, and

more or less faces the thorax), with the Drepanidae, where it lies farther back; and perhaps shows some influence also of *Urania*, where it is really on the second segment, as described in the text. Not only my not wholly satisfactory paper in Psyche seems unknown to Dr. Hering, but also the very full and important monograph by Eggers (Zool. Jahrbucher, Anat. 41:273-376) is unmentioned.

The chapter on geographical distribution is very interesting, and carefully worked out. I wonder if more allowance might not be made for relatively recent extinction of formerly world-wide forms; as in other groups where fossils are known, this has turned out to be the true reason for several distributions formerly credited to "Notogaea" or "Lemuria." An interesting case is the South American and African *Hypanartia (Antanartia)*. This might be thought of as an example of an early land-bridge, but in fact the group (genus in the broad sense) is represented in North America by the fossil *Prodryas persephone*, and the genus, which is closely related to *Vanessa*, may really have been world-wide.

The chapter on mines is of special interest, but perhaps the complicated system of Greek names for the various types of feeding habit might prove more a source of confusion than a necessity. Some of the generalizations also would have to be modified to take in the American forms.

The figures on the few plates are well selected, and are beautiful reproductions, but apparently were grouped almost haphazard. In some cases the effect is unfortunate, as in the case of the Bistons, where the hybrid is separated by some dozen pages from its parents. With a little less enlargement all could have gone easily on the same plate.

There is a short bibliography, selected on no obvious principle. Jordan is for instance represented by one of the least important of his papers. American titles are completely absent.

WM. T. M. FORBES.

OBITUARY.

The death of FERNAND MEUNIER, member of the Entomological Society of France since 1890 and author of a large number of notes and memoirs on fossil insects, was announced at the meeting of the Society March 24, 1926, but without any particulars as to the date or place of his decease. (Bull. Soc. Ent. Fr. 1926, no. 6, p. 65).

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale. Notices not exceeding three lines free to subscribers.

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